

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2001-109026

(43)Date of publication of application : 20.04.2001

(51)Int.Cl.

G02F 1/35

G02F 1/355

H01S 3/06

H01S 3/094

H01S 3/23

H01S 3/30

(21)Application number : 11-288337

(71)Applicant : NIPPON TELEGR & TELEPH  
CORP <NTT>

(22)Date of filing : 08.10.1999

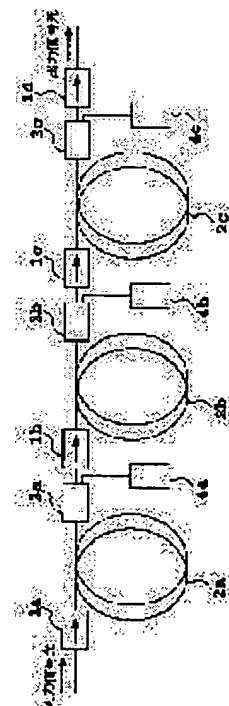
(72)Inventor : MORI ATSUSHI  
SHIMIZU MAKOTO  
KANO KOJI  
KOBAYASHI KENJI

## (54) FIBER RAMAN AMPLIFIER AND FIBER RAMAN LASER

### (57)Abstract:

PROBLEM TO BE SOLVED: To provide a fiber Raman light amplifier using tellurite glass as a light amplification medium.

SOLUTION: When a fiber is produced by using tellurite glass as the material of the fiber and a fiber Raman amplifier is constituted by using the fibers, the gain coefficient of the order of about thirty-times can be obtained as compared with that obtained when quartz glass is used as the material. When a fiber Raman amplifier is constituted by using three lines of tellurite fibers 2a, 2b, 2c whose lengths are respectively 150 m and three LD exciting light sources 4a, 4b, 4c whose wavelengths are respectively 1370 nm, 1400 nm and 1430 nm and by connecting three units in which the tellurite glass fibers 2a, 2b, 3c and the LD exciting light sources 4a, 4b, 4c are respectively combined in series and the amplifier is excited by making respective input power of exciting



lights to be 200 mW (total 600 mW), a gain equal to or larger than 23 db is obtained in a 100 nm band extending from 1.5 to 1.6  $\mu\text{m}$ .

---

## LEGAL STATUS

[Date of request for examination] 25.10.2001

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

Copyright (C); 1998,2003 Japan Patent Office